REMARKS

An excess claims fee payment letter is submitted herewith for two excess independent claims.

Claims 1-20 are all the claims presently pending in the application. In consideration of the Examiner's apparent confusion with the claim language, claims 1-12 have been amended to assist the Examiner's understanding. New claims 13-20 have been added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

The Examiner objects to claims 1 and 6. Applicants gratefully acknowledge the Examiner's helpful suggestion to overcome this objection and believe that the above claim amendments address the Examiner's concerns. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw this objection to claims 1 and 6.

Claims 1, 2, and 4-6 stand rejected under 35 U.S.C. §102(e) as being anticipated by Nakajima et al. (U.S. Patent No. 6,522,803 B1). Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakajima et al., further in view of Okano et al. (U.S. Patent No. 6,449,074 B1). Claims 7-9 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tomita (U.S. Patent No. 6,426,817 B1), further in view of Nakajima et al. Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tomita, further in view of Nakajima et al., and further in view of Okano et al.

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention is directed to a wavelength division multiplexing optical transmission method wherein n (n: 4 or a larger integer) input signal light channels are connected to be transmitted.

The transmittable n (n: 4 or a larger integer) input signal light channels are grouped into groups each having x channels (x: integer, $2 \leq x < n$). For each group, whenever one or

more of its x input channels does not currently include an input signal to be transmitted, a control light is generated and transmitted that has the same power level as the total power of signal lights of the one or more missing input signals.

Thus, for example, in a 32-channel wavelength division multiplexing optical transmission system, four optical transmitters are grouped in eight groups. Each group is provided with a control optical transmitter. The control light transmitter regulates the level of a control light so that the total level of light transmitted from the corresponding group is equal to the total level of four signal lights. An optical transmission line of the above-mentioned system is normally regulated beforehand so that the wavelength characteristic of the following signal lights is flat when light at the total level of thirty-two signal lights in a predetermined range of wavelengths is transmitted. Therefore, in the system according to the invention, independent of the number of signal lights, the received level of a signal light is unchangeable, and the transmission line characteristic is flat even when some of the channels have no data signal currently being transmitted.

Some conventional methods make no attempt to keep this transmission line characteristic flat when one or more channels have no data being transmitted. Alternatively, in the method discussed on page 3 of the specification, the attempted compensation for missing channels uses a different wavelength from a normal data channel, thereby possibly degrading the transmission wavelength characteristic because it has been pre-set with the specific frequencies of the normal data channels.

The claimed invention, on the other hand, makes the compensation by inserting a control light that has the same frequency as one of the normal data channels. The control lights automatically compensate for any number of normal data channels not currently having data being transmitted.

II. THE PRIOR ART REJECTIONS

The Examiner alleges that Nakajima anticipates the present invention described by claims 1, 2, and 4-6, and, when combined with Okano, renders obvious claim 3.

The Examiner also alleges the Tomita, when modified by at least one of Nakajima or Okano, renders obvious claims 7-12.

Applicants respectfully disagree, since the present invention is clearly a uniquely new

combination of elements.

1. The Rejections base on Nakajima

First, relative to the rejections based on Nakajima, this reference teaches an optical cross-connect apparatus in which a dummy light source is available for each wavelength. Because of its different purpose and characteristic of devoting a dummy light source for each output signal frequency, in contrast to the present invention described by claim 1, Nakajima fails to have one control light per each group that provides a total power to compensate for the missing input signals in that entire group.

Even if the Examiner were to consider that one of the dummy sources would compensate for one of the missing signals, there is no one control light in each group of four in Nakajima that would compensate the total power for more than one missing input signal.

Moreover, since Nakajima concerns a cross-connecting method, there is no intent to break down *n* input channels into a plurality of groups, each having *x* channels, and then recombining the plurality of groups into a single output having *n* multiplexed channels, let alone determining whether one or more of the *n* channels temporarily has no data currently being transmitted. The Examiner cannot simply ignore the plain meaning of the claim language that clearly describes an environment different from that of Nakajima.

Hence, turning to the clear language of the claims, Nakajima fails reasonably to teach or suggest: "A wavelength division multiplexing optical transmission method wherein n (n: 4 or a larger integer) input signal light channels are connected to be transmitted ... grouping transmittable n (n: 4 or a larger integer) input signal light channels into groups each having x channels (x: integer, $2 \leq x < n$); and transmitting a control light having a same power level as a total power of signal lights of said one or more missing input signals ....", as plainly required by claim 1.

Therefore, Applicants submit that claims 1, 2, and 4-6 are clearly not anticipated by Nakajima and are, furthermore, clearly not obvious over this reference.

Relative to the Examiner's combining of Okano with Nakajima, Applicants first submit that these two references are not properly combinable, since Okano concerns the problem of compensating for breaks in an optical line, whereas Nakajima concerns optical cross-

connecting methods. Applicants submit that, absent impermissible hindsight, one of ordinary skill in the art addressing optical cross-connecting would not be motivated to consult Okano, since there is no problem in Nakajima that requires solution.

Therefore, the Examiner's motivation to modify Nakajima is merely a conclusory statement of an alleged benefit to be achieved if a modification were to be made. Under this evaluation approach, everything would be considered as obvious, since the motivation to combine becomes merely the circular argument that the motivation to modify a reference is to achieve the benefit of having made the modification.

Moreover, the combination with Okano would not overcome the deficiencies identified above for Nakajima wherein there are not *n* channels of input data to be combined and there is no one control light per each group that provides a total power to compensate for any number of missing input signals in that group.

Hence, claims 1-6 are clearly patentable over Nakajima.

2. The Rejections base on Tomita

Relative to the rejection based on Tomita, this reference clearly teaches against separating the input channels into groups, each having a control light (Figures 3, 5, and 6), and clearly teaches against using the wavelength of one of the data channels (e.g., see lines 58-62 of column 3).

The grouping demonstrated in Nakajima does not overcome the deficiency in Tomita in which the *n* input channels are handled as a whole and is not properly combinable with Tomita, since Nakajima has grouped input signals because of its purpose for cross-connecting.

Okano likewise fails to overcome the above-identified deficiencies of Tomita.

Therefore, relative to the rejection for claim 7, there is no separation in Tomita of the *n* input channels into groups, each having *x* channels, and each group having its own control light. Therefore, in Tomita, there is no first multiplexer associated with each of the groups and a second multiplexer that receives inputs from the first multiplexers.

Applicants submit that the Examiner cannot simply ignore the plain meaning of the claim language that clearly reflects the differences of the entirely different architecture of Tomita. Nor would the Examiner be permitted to simply re-structure the entirely different

architecture of Tomita, absent a reasonable motivation for such modification. That is, Tomita already provides an architecture and method for compensating for channels currently having no data signal. The Examiner cannot simply change this architecture and method, merely for purpose of reading on the claimed invention.

Hence, turning to the clear language of the claims, in Tomita there is no reasonable teaching or suggestion of: "A wavelength division multiplexing optical transmission system wherein n (n: 4 or a larger integer) channels of signal lights can be transmitted, said system comprising: n signal light transmitters that can respectively receive an input signal and transmit a signal light as an input light signal to be transmitted, wherein said n signal light transmitters are classified into groups, each said group comprised of x of said signal light transmitters; a plurality of first optical multiplexers, each said first optical multiplexer provided with x (x: integer; $2 < x < n$) channels of signal light input ports from one of said groups, each said channel connected to an output of one of said n signal light transmitters; an optical branching device associated with each said first optical multiplexer that branches light output from the first optical multiplexer; a control light transmitter associated with each said first optical multiplexer that transmits a control light based upon a level of the branched light from the optical branching device, a wavelength of said control light corresponding to a wavelength of one of said x channels; a second optical multiplexer that multiplexes light output from the first optical multiplexers....", as required by claim 7.

Therefore, claims 7-12 are clearly patentable over Tomita.

For the reasons stated above, the claimed invention is fully patentable over the cited references.

Further, the other prior art of record has been reviewed, but it too even in combination with Nakajima, Tomita, and Okano, fails to teach or suggest the claimed invention.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-20, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance,

the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 8/20/04

Frederick E. Cooperrider
Registration No. 36,769

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254

CERTIFICATION OF TRANSMISSION

I certify that I transmitted via facsimile to (703) 872-9306 this Amendment under 37 CFR §1.111 to Examiner C. Leung on August 20, 2004.

8/20/04

Frederick E. Cooperrider
Reg. No. 36,769